

In the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1        1.    (Currently Amended) An apparatus for implementing a media  
2 access control layer in an open system interconnection type  
3 network, comprising:  
4        a plurality of operating modules each enabling a respective  
5 media access control layer operating function, wherein each of said  
6 plurality of operating modules is ~~software-programmable for~~  
7 enabling programmed to enable said operating module to perform its  
8 associated media access control layer operating function in  
9 accordance with a desired communications standard selected from  
10 among a plurality of communication standards;  
11        a utility module programmed to enable at least one utility  
12 function employed by more than one of said plurality of operating  
13 modules for more than one of said plurality of communication  
14 standards;  
15        a host interface module configured to enable communication  
16 between a host processor and said media access control layer;  
17        a physical layer interface module configured to enable  
18 communication between a physical layer and said media the a access  
19 control layer; and  
20        an inter-module communication interface enabling communication  
21 between said plurality of operating modules.

2 to 10. (Canceled)

1        11. (Currently Amended) The system of claim 1, wherein:  
2        said plurality of operating modules for each desired  
3 communication standard comprises a transmitter module, a receiver

4 module, a deference algorithm module, and a statistics maintenance  
5 module ~~and utility module~~.

1 12. (Currently Amended) A method for implementing a media  
2 access control layer in an open system interconnection type  
3 network, comprising:

4 separating media access control layer operating functions into  
5 plurality of corresponding software-programmable operating modules;  
6 ~~and~~

7 programming each of said operating modules to perform its  
8 corresponding media access control layer operating function in  
9 accordance with a selected one of a plurality of communication  
10 standards; and

11 programming a utility module programmed to enable at least one  
12 utility function employed by more than one of said plurality of  
13 operating modules for more than one of said plurality of  
14 communication standards.

13 to 23. (Canceled)

1 24. (New) The apparatus of claim 1, wherein:  
2 said at least one utility function of said utility module  
3 includes error checking/calculation.

1 25. (New) The apparatus of claim 1, wherein:  
2 said at least one utility function of said utility module  
3 includes cyclic redundancy checking.

1 26. (New) The apparatus of claim 1, wherein:  
2 said at least one utility function of said utility module  
3 includes randomizing.

1        27. (New) The apparatus of claim 1, wherein:  
2        said at least one utility function of said utility module  
3 includes address filtering.

1        28. (New) The apparatus of claim 11, wherein:  
2        said transmitter module enables preprocessing of the packet  
3 transmission to the physical layer interface module including  
4 packet framing and transmit condition checking based on an output  
5 of said deference algorithm module.

1        29. (New) The apparatus of claim 11, wherein:  
2        said receiver module enables preprocessing of the packet  
3 received from the physical layer interface module including packet  
4 recognition, packet format checking, error checking and statistical  
5 information report to said statistics maintenance module.

1        30. (New) The apparatus of claim 11, wherein:  
2        said deference algorithm module implements a backoff algorithm  
3 when said media is busy and said transmitter module must delay  
4 current packet transmission.

1        31. (New) The apparatus of claim 11, wherein:  
2        said statistical maintenance module stores statistical data  
3 for the media access control layer including at least one of a  
4 number of packets transmitted/received, a number of bytes  
5 transmitted/received, a number of packets received with errors and  
6 a number of packets transmitted with deferring.

1        32. (New) The apparatus of claim 1, further comprising:  
2        a host processor producing interface control signals to said  
3 host interface module and serving as a data source for transmitted  
4 data and a data sink for received data;

5       a reduced instruction set controller executing said host  
6 interface module for communicating with said host processor, said  
7 reduced instruction set controller executing said desired plurality  
8 of operating modules and said utility module;  
9       said inter-module communication interface includes a reduced  
10 instruction set controller/digital signal processor interface  
11 module executing via said reduced instruction set controller;  
12       a digital signal processor connected to said reduced  
13 instruction set controller/digital signal processor interface  
14 module and executing said physical layer interface module.

1       33. (New) The apparatus of claim 1, further comprising:  
2       a host processor producing interface control signals to said  
3 host interface module and serving as a data source for transmitted  
4 data and a data sink for received data;  
5       a digital signal processor executing said host interface  
6 module for communicating with said host processor, said digital  
7 signal processor executing said desired plurality of operating  
8 modules, said utility module and said physical layer interface  
9 module.

1       34. (New) The apparatus of claim 1, further comprising:  
2       a host processor producing interface control signals to said  
3 host interface module and serving as a data source for transmitted  
4 data and a data sink for received data, said host processor  
5 executing a first subset of said desired plurality of operating  
6 modules and said utility module;  
7       a digital signal processor connected to said host interface  
8 module for communicating with said host processor, said digital  
9 signal processor executing a second subset of said desired  
10 plurality of operating modules and said utility module, said second  
11 subset including all of said desired plurality of operating modules

12 and said utility module other than said first subset and executing  
13 said physical layer interface module.

1 35. (New) The apparatus of claim 1, further comprising:  
2 a host processor producing interface control signals to said  
3 host interface module and serving as a data source for transmitted  
4 data and a data sink for received data;  
5 a digital signal processor executing said host interface  
6 module for communicating with said host processor, said digital  
7 signal processor executing said desired plurality of operating  
8 modules, said utility module and said physical layer interface  
9 module.

1 36. (New) The method of claim 12, wherein:  
2 said at least one utility function of said utility module  
3 includes error checking/calculation.

1 37. (New) The method of claim 12, wherein:  
2 said at least one utility function of said utility module  
3 includes cyclic redundancy checking.

1 38. (New) The method of claim 12, wherein:  
2 said at least one utility function of said utility module  
3 includes randomizing.

1 39. (New) The method of claim 12, wherein:  
2 said at least one utility function of said utility module  
3 includes address filtering.

1 40. (New) The method of claim 12, wherein:  
2 said plurality of operating modules for each desired  
3 communication standard comprises a transmitter module, a receiver

4 module, a deference algorithm module and a statistics maintenance  
5 module.

1 41. (New) The method of claim 40, wherein:  
2 said transmitter module enables preprocessing of the packet  
3 transmission to the physical layer interface module including  
4 packet framing and transmit condition checking based on an output  
5 of said deference algorithm module.

1 42. (New) The method of claim 40, wherein:  
2 said receiver module enables preprocessing of the packet  
3 received from the physical layer interface module including packet  
4 recognition, packet format checking, error checking and statistical  
5 information report to said statistics maintenance module.

1 43. (New) The method of claim 40, wherein:  
2 said deference algorithm module implements a backoff algorithm  
3 when said media is busy and said transmitter module must delay  
4 current packet transmission.

1 44. (New) The method of claim 40, wherein:  
2 said statistical maintenance module stores statistical data  
3 for the media access control layer including at least one of a  
4 number of packets transmitted/received, a number of bytes  
5 transmitted/received, a number of packets received with errors and  
6 a number of packets transmitted with deferring.

1 45. (New) The method of claim 12, further comprising:  
2 executing a host interface module for communicating with said  
3 host processor and said selected plurality of operating modules and  
4 said utility module on a reduced instruction set controller.

1        46. (New) The method of claim 12, further comprising:  
2        executing a host interface module for communicating with said  
3 host processor, said desired plurality of operating modules, said  
4 utility module and said physical layer interface module on a  
5 digital signal processor.

1        47. (New) The method of claim 12, further comprising:  
2        executing a first subset of said desired plurality of  
3 operating modules and said utility module on a host processor;  
4        executing a second subset of said desired plurality of  
5 operating modules and said utility module, said second subset  
6 including all of said desired plurality of operating modules and  
7 said utility module other than said first subset a digital signal  
8 processor.

1        48. (New) The method of claim 12, further comprising:  
2        executing said desired plurality of operating modules, said  
3 utility module and a physical layer interface module on a digital  
4 signal processor.